‘FASHION, ARCHITECTURE AND THE URBAN ENVIRONMENT’
The Parallel Relationships Between Fashion and Architecture

An explanatory document submitted in partial fulfillment of the requirements for the degree of Master of Architecture (Professional),

Unitec New Zealand,

2010
ACKNOWLEDGEMENTS

I am extremely thankful to many people who have guided me throughout the process of this project. Firstly, I would like to thank my supervisors, Krystina Kaza and Dushko Bogunovich, whose encouragement, guidance and support from the start to the final level enabled me to develop a better understanding of the subject.

I would also like to thank Belinda Watt, HOD Fashion Design at Whitecliffe College of Arts and Design, for helping me gain a better understanding of the Programmatic aspect of my design. At the same time I would like to thank Mandy Smith, HOD Fashion Design at AUT School of Art and Design for guiding me through the spaces required to run a successful Fashion School and answering any questions I have had regarding a Fashion Institute.

I would like to offer my regards and blessings to all of those who supported me in any respect to the completion of this project and also my five years of study in Architecture at Unitec New Zealand. During this time I have completed my Bachelor of Architectural Studies and Master of Architecture, which couldn’t have been done without the support of my friends and family. My brother and sister, Mohammad and Mona, have also been supportive in all the decisions I have made and have given me a helping hand when needed. I would especially like to thank my parents Behzad Barzandeh and Mina Azimi for the emotional and financial support they have not only given me through my studies, but throughout my life.

I am truly blessed.....
ABSTRACT

How may pleating, folding and layering techniques often used in fashion design to create ‘structural’ garments, be used as an approach to both structure and façade in a large-scale, waterfront architectural intervention in Wynyard Quarter?

This research project develops a design for a fashion institute, in a manner which acknowledges the ever-changing nature of clothing fashion, the façade of fashion design and how it can not only be linked to architecture as an aesthetic principle, but with a functional and spatial aspect of design. The project aims not only to successfully resolve the functional, formal and technological issues of this particular brief, but to also propose an urban and architectural design strategy that can be applied to similar sites around Auckland.

The uniquely shaped city waterfront site is one of the most interesting and predominant sites in the whole Wynyard Quarter area. Its neighbouring businesses currently include the Auckland Fish Market, marine businesses and various bars and cafés. An initial study determined the future development of the site in its context and from an urban perspective.

The selected site on the city waterfront is quite prominent and has been already master planned in a manner that predetermines an expressive footprint and important public open spaces all around. The main features of the proposal are a large entry staircase as the main social space, the cascading atrium leading up to the rooftop exhibition space and the folded façade.

This approach goes beyond the aesthetic side of architecture and engages also the functional and structural aspect of architectural design.
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1.0 INTRODUCTION

1.1 GENERAL OVERVIEW

The relationship between fashion and architecture is not as far fetched as one would imagine. Both are based on structure, shape and aesthetics. Both industries can also be susceptible to frequent changes in taste and styles. These parallel relationships are the starting point of my research.

According to an article in EGO Magazine entitled ‘Fashion and Architecture’, considering the dialogue between modern architecture and contemporary fashion is a popular subject in this day and age.¹

Contemporary fashion designers and architects are creating incredibly innovative designs that are influenced by the tools, tricks, theory and philosophy of each other’s trade.²

Regardless of differences that may arise in fashion and architecture in size, scale and materials, the point of origin for both fashion design and architecture is the human body. Both practices protect and shelter us, whether it is at a small or larger scale.³

I propose to explore the influence of fashion on architecture through the principles of fashion such as pleating, folding and layering, and to translate this into an architectural language.

1.2 ARCHITECTURAL QUESTION

How may pleating, folding and layering techniques often used in fashion design to create ‘structural’ garments, be used as an approach to both structure and façade in a large-scale, waterfront architectural intervention in Wynyard Quarter?

1.3 AIM

The aim of this project is to design a fashion institute in Wynyard Quarter that will be situated successfully within the new development scheme proposed by Sea + City. The project will use the fashion principles of pleating, folding and layering to create a functional and inspiring result for the occupants.

² Ibid.
³ Ibid.
1.4 OBJECTIVES / PURPOSE

The purpose of this project will be to design an educational facility – fashion institute – in a manner, which very vividly demonstrates on the façade what this building is used for. Also providing spaces that are inspiring and a stimulating environment for learning about creativity and innovation.

A strategic approach to this will be:

• To create spaces for the students and work around their needs. For example, open outdoor spaces that have a tapering shape to create either an open (social space) or intimate (individual) space.

• Translating the three principles applied in fashion design (pleating, folding and layering) into architectural design strategies and using them both tectonically and aesthetically.

• To develop a building program that benefits the occupants on different levels according to their needs at specific times.
2.0 METHODOLOGICAL APPROACH

2.1 RESEARCH FOR DESIGN

The Merging of Two Worlds

Fashion houses have commissioned well-known architectural firms such as OMA, Herzog & de Meuron, and Future Systems etc to design their retail spaces by carefully studying their clients. For example, Rem Koolhaas, when designing stores for Prada, researched everything from clothing construction to mechanisms of display and global distribution and branding. Within the last few years, Koolhaas has revolutionized the Prada fashion empire by designing unique display areas and applying a structural façade, which was derived from the idea of textile patterning used in fashion. This had not been done before for the Prada Empire.

The Prada stores have been rewarded with a series of intriguing and provocative designs for the New York, Los Angeles, San Francisco and Tokyo stores (which Herzog and de Meuron designed) that have attempted to redefine the boundaries between architecture and fashion.4

Rem Koolhaas/OMA have pushed the boundaries of more versatile retail spaces for Prada with designs that blend the retail experience with the runway-style presentation of goods.

“Rem Koolhaas has expanded the possibilities of architecture. He has focused on the exchanges between people in space. He creates buildings that bring people together and in this way forms ambitious goals for architecture. His influence on the world has come well beyond architecture.”5

An example of how Koolhaas has expanded the possibilities in working for Prada is the design of ‘The Wave’ – a curving space scooped out of the ground floor and opening it up to the basement. On one side the slope has steps – for displaying shoes and accessories – that can also be used as a seating area, facing a stage that unfolds from the other side of the wave. The store then becomes a venue for film screenings, performances and lectures6 (see figure 2.1).

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Shelter and Identity

Architecture is predicated on the need for structures that house and protect inhabitants from the elements. Japanese Architect Shiguru Ban brought up this programmatic necessity in his discussion of his Curtain Wall House. Ban experimented with the idea of the glass curtain wall construction. By making an enormous retractable fabric curtain on the exterior surface of two sides of the house, which is located on a corner, he provided the residents with shelter and privacy in a ‘fashionable way’.

Bringing the idea of fabrics and a different texture into play while designing such a building, creates a contrast to the surrounding buildings. The curtain wall, like clothing, creates a unique identity for the house, giving it a unique identity to the surrounding buildings. For example, in fashion, when clothing is worn, aside from ‘sheltering the body’, a unique identity is created for the individual wearing it; their own style and ‘touch’ is added to the look. According to Dr. Maria

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10 Ibid

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Piacentini and Greig Mailer, people establish their identity through clothing.

“In our modern age, many people try to express their identity through the use of material objects. Among these material objects, clothing is perhaps one of the most important... a tool of reflecting their opinions, values, and characteristics, which make up a person’s identity.”

In terms of the design for the fashion institute, I believe it is important to give it a unique identity as this building is in an area surrounded by marine industries and entertainment boulevards. In the same way that Ban’s Curtain Wall House was an ‘unusual’ approach to the unique identity, the proposed fashion institute attempts to create its own unique identity within Wynyard Quarter.

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13 Ibid.
A proven similarity between some architects and fashion designers is that they use a responsive or intuitive process to translate their ideas into three-dimensional models and patterns. For example, they use materials at hand to assist in communicating their concepts to colleagues who then work out the complex technical issues required to refine the design.\(^\text{14}\)

These studies show the similarities and sharing of methods between architects and fashion designers when designing. I have adopted this in terms of designing and using the process of model making, to scale and not to scale, and drawing to analyse and establish a final design.

\[\text{Construct/Deconstruct}\]

Recent advances in technology have given architects the tools to create fluid buildings and fashion designers the ability to make garments architectonic. The language of each discipline is increasingly interchangeable as architects incorporate pleating, folding and weaving into their structural designs, while fashion designers use architectural inspiration to express volume and structure.\(^\text{15}\)

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\(^\text{15}\) Ibid.
2.2 PRECEDENTS

Barnard College – The Diana Centre, New York

The Diana Center was designed by Weiss/Manfredi and reflects the school’s curriculum by incorporating ideas of transparency, flow and its overall design, encouraging the Barnard community to interact, to exchange ideas, and to engage in rigorous and creative thinking.16

The Diana Center has a similar building form as the proposed fashion Institute in Wynyard Quarter – a slight wedge-shaped building. The Diana Center will also be open to the public and has been designed to encourage this interaction, as will parts of the Fashion Institute. Located on Broadway, the Diana Center fuses landscape and architecture, interior and exterior in a seven-storey structure.17

The design includes diagonal atria, created by carving a diagonal void through the building. The slipped atria and unfolded glazed staircase draw in natural light and eradicate visual boundaries between the College and the city, while at the same time providing spaces for informal interaction.

The façade is a composition of clear and coloured integral glass panels, which then translates the brick and terra cotta of the surrounding neighborhood into a luminous, energy-efficient exterior.18

17 Ibid.
18 Ibid.
Design Strategy - Part of the college’s goal is to create common spaces that promote natural interaction of the occupants.  

This resulted in a modified structure providing good sight lines along campus and through the building, as well as terraced green spaces to create gathering spaces inside as well as out.

![Diagram showing design strategy process](image)

*Figure 2.4: Showing the design strategy process.*

At the top, the garden idea is continued with a green roof that provides additional event and lawn space (as shown in figure 2.5). The curtain wall creates a very enticing façade along the Broadway street front, providing views into and through the building to the campus. It is very important that the Diana Center has an inviting presence, as it is now the new home to Barnard’s public events.

![Image of sustainable green roof at Diana Center](image)

*Figure 2.5: The sustainable Green Roof at the Diana Center.*

Green Building at Barnard - Barnard is committed to maintaining a healthy campus for its occupants. Some of these strategies have been adopted in the design of the proposed fashion institute (refer to 4.4 Design Issues). As such, the Diana Center incorporates several ‘green’ or sustainable, features. Features such as the Green Roof (as shown

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21 Ibid.
22 Ibid.
24 Ibid.
above), sustainable plumbing and lighting systems, and an HVAC system, create a sustainable design.

Facade Design – An important idea of the façade design was to connect to the urban surroundings of New York, so a certain degree of transparency needed to be achieved. This was to show those in their cars, buses and cabs, what was happening in the school. Barnard was designed to visually engage with the city, reflecting its students’ clear interest in the city itself. A palette of glass was chosen for the Diana Center—transparent, translucent and opaque—to create a rhythm that works at the scale of the street, but also offers glimpses of the things happening within. The opaque glass is brick-colored, to make the building contextual without the heaviness of masonry.  

This curtain wall is made up of clear and terracotta-colored glass panels. A system was developed where the coloured glass panels were backed up by a shallow cavity closed off by sheetrock, referred as a ‘shadow box’.  

“Glass is typically treated as a neutral skin, and architects want to dematerialize it and make it go away... we got interested in its presence and decorative richness.” - Marion Weiss, from “Beyond Transparency”, The Architect’s Newspaper, April 2006.


26 *Behind the Curtain Wall*, http://www.barnard.edu/diana/about/wall.html (accessed August 06, 2010).

27 Ibid.
Cooper Union – Morphosis

The new design and development for Cooper Union has been an influential part of my design research, mainly in terms of materiality and the wrapping of the second skin that has ‘clothed’ the building.

41 Cooper Square aspires to reflect the institute’s stated goal to create an iconic building, a building that reflects its values and aspirations as a center for advanced and innovative education in Art, Architecture and Engineering.29

The spatial design inside is conceived as a vehicle to foster the collaboration and dialogue among the college’s three schools. These three schools were previously housed in separate buildings.30

One of the main design strategies was to create a vertical piazza, a place where informal social, intellectual and creative exchange can occur. This vertical piazza is the social heart of the building, providing a place for impromptu and planned meetings, student gatherings, lectures, and for the intellectual debate that defines the academic environment.31 A very similar approach has been taken in the design of the proposed fashion institute, as the students that will be designing in their studio rooms will have a close relationship with their own year group. This idea of a ‘social vertical piazza’ gives more opportunity for a social exchange with all occupants, whether it is the students, staff or general visitors.

Figure 2.8: Concept Sketch for Cooper Union by Morphosis.32

29 Ibid.
30 Ibid.
31 Ibid.
From the double-height entry lobby, the grand stair ascends four stories to terminate in a glazed double-height student lounge overlooking the city.  

On the fifth through ninth floors, sky lobbies and meeting places, including a student lounge, seminar rooms, lockers, and seating areas overlooking the cityscape, are organized around this central atrium. Sky bridges have been designed to span the atrium to create connections between these informal spaces for the occupants.

Due to the institute being dedicated to free, open and accessible education, the building itself is symbolically open to the city. Visual transparencies and accessible public spaces connect the institute to the physical, social and cultural fabric of its urban context. At street level, the transparent façade invites the neighbourhood to observe and to take part in the intensity of activity contained within.

The building is echoed with light, shadow and transparency via a high-performance exterior double skin, which is a semi-transparent layer of perforated stainless steel that wraps the building’s glazed envelope (the first façade). This provides a critical interior environmental control, while also allowing for transparencies to reveal the “creative activity occurring within”.

The Cooper Union building also has a corner entry (the same principle as the proposed fashion institute, as it is a response to the urban context), which lifts up to draw people into the lobby in a deferential gesture towards the institute’s historic Foundation Building.

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34 Ibid.
35 Ibid.
36 Ibid.
37 Ibid.
38 Ibid.
initiatives as the proposed fashion institute. The initiatives include:

- An operable building skin made of perforated stainless steel panels offset from a glass and aluminum window wall. The panels reduce the impact of heat radiation during the summer and insulate interior spaces during the winter.\(^3^9\)
- Radiant heating and cooling ceiling panels introduce innovative HVAC technology that will boost energy efficiency. This contributes to making the new building 40 percent more energy efficient than a standard building of its type.
- A full-height atrium enables unique circulation for building occupants, improves the flow of air and provides increased interior day lighting.
- Seventy-five percent of the building’s regularly occupied spaces are lit by natural daylight.
- A green roof insulates the building, reduces the city ‘heat island’ effect, storm water runoff and pollutants; harvested water is reused.

- A co-generation plant provides additional power to the building, recovers waste heat and effectively cuts energy costs.
- Flexible state-of-the-art laboratories, studios and classrooms are specifically designed to accommodate pedagogical objectives, as well as current and future research activities.\(^4^0\)

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\(^4^0\) Ibid.

\(^4^1\) Ibid.
2.3 RESEARCH BY DESIGN

Design exploration is arguably the most crucial stage of the research. It takes all my research leading up to this stage and applies it to my own interpretation and translation to bring me closer to the final product.

At this stage it is about solving the problems that have arisen and the effects of the changes made, whether that is programmatic, form-based or spatial.

The design exploration is about trial and error. Basic approach to this form of research is similar to the way fashion designers work: the concept is derived, the basis of the design formed, followed by the trial and error of physically making the outfit.

These ‘solutions’ are then tested through research, precedents, previous experience and by interviewing the appropriate people.

It not only involves applying the strategies that have been extracted from relative precedents, but also solving the problems that arise through the architectural design. These problems include:

- Planning
- Materiality
- Structural issues
- Integration of services
- Scale and massing etc.

Consideration has to be given to the context of the site and the integration of the building within its surroundings, whether it is going to be the new development scheme or the existing context.

With each design development, an initial goal will need to be accomplished – whether that is developing the ideas of folding and pleating and incorporating this into the proposed building form, or whether it is the spatial development of the cascading atrium.

Many experimental and developmental models have been made to explore different aspects of the design, from form to façade etc. The exploration of these models is an integral part of the developmental process as it helps to visualize the form and develop the spaces required by the programme. The initial model-making process to create a tectonic relationship between the fashion concepts in an architectural way so they would speak a similar language, was crucial as it explored many different forms that were a catalyst to further development.

Models were made using the main element of the fashion industry, fabric. Creating tectonic models using different textured fabric revealed different shapes and forms. For example, different kinds of pleats were created using an iron and pins (to hold the pleats in place – the structure) with both soft silky fabric and course cotton-based fabric. The
results were very different and further developments with the courser fabric with box pleats were investigated for a possible façade design.

2.4 PRESENTATION / COMMUNICATION

The final presentation is a key element of the established project and affects the way the project is communicated and understood.

As mentioned previously, the presentation will be hand-drawn, as this is a more sympathetic approach that references back to the creative process of fashion design.

These drawings will then be modified in Adobe Photoshop by applying rendering and filtering effects to enable the techniques of folding, pleating and layering to be clearly recognized. The plans, section and perspectives will be shown along with models, which will reveal elements of the creative process and the three-dimensional nature of the project.
3.0 REVIEW OF CURRENT KNOWLEDGE

3.1 INTERNATIONAL EXAMPLES

Several international schools have been influential in the programme of the fashion institute I am designing. One reason why these schools are a helpful guideline is that they are successful in fulfilling the needs of the students, faculty and any other clientele that would use the schools’ facilities.

*Parsons, The New School for Design, New York*

The first school is Parsons, The New School for Design. The school is located in Manhattan, New York. Like most universities in New York City, The Parsons campus is spread throughout the city.\(^42\) In addition to classrooms, many galleries and libraries make up The New School For Design.\(^43\)

*Fashion Institute of Technology, New York*

The second school is the Fashion Institute of Technology (FIT) in New York City. The school’s first building was opened in late ‘50s with a brutalist design concept. FIT is a selective college of art, design and business.

There are a total of nine buildings on campus, including a Great Hall, a space suitable for conferences, fashion shows, lectures and other events. The campus also has two large theatres – the Haft Auditorium and the Amphitheatre.\(^44\) This relates to the spaces in my design proposal, which will incorporate two lecture rooms.

FIT serves over 6,500 full-time and 3,000 part-time students. Four dormitories, three of which are on-campus, serve approximately 2,300 students and offer a variety of accommodations.\(^45\) It is a much larger scale of occupancy, however the FIT campus does have a much larger site.


\(^{43}\) Ibid.


\(^{45}\) Ibid.
3.2 LOCAL EXAMPLES – CASE STUDIES

**Interviews**

I have contacted and interviewed (verbally or via email) the Heads of Department of various fashion design schools in Auckland.

I personally spoke to Belinda Watt, Head of Department Fashion Design, from Whitecliffe College of Arts and Design.

During our interview, I asked her about fashion and architecture. The questions I put to her included: ‘What do you think is the relationship between fashion and architecture?’ Her answers were very helpful and helped guide and focus me. Belinda Watt gave me an insight into how a fashion institute is run in New Zealand and how it could potentially be made better (by following more successful international examples).

My second interview was with Mandy Smith, Head of School (Fashion Design), at AUT School of Art and Design. We arranged to meet at AUT in the fashion department and my questions were aimed at better understanding the spaces required for students and what the annual schedule encompasses. It was important for me to see which spaces are used most frequently and at different times of the year, working around exhibitions etc.

**Whitecliffe – College of Arts and Design, Auckland**

The visit to Whitecliffe was interesting as it has quite a small fashion school, with a total of approximately 30 students across all year groups. They share one large room and each year group are in their own space. The advantage of this was having a social relationship with your peers and learning from each other whether you are in the first year of study or your last.

They didn’t have much space to really have a lot of the trade tools that they require, for example sewing machines etc. For exhibitions they would rent out halls or sheds at the end of the year. Lecture rooms and computer rooms are shared with the other degrees and are very poorly designed, aesthetically and acoustically.

The space was basically given to them rather than designed for them therefore they just have to make do with what they have.
AUT – School of Art and Design, Auckland

By talking to Mandy Smith, I discovered many things that they didn’t like about the fashion facilities they were working in. Firstly one of the main issues was space. They didn’t seem to have enough space. Mainly for student workspaces and storage. Each student needs at least one clothes rack and storage for their fabrics and tools. There are approximately 350 students in all four years of the degree and postgraduate courses and having 4 levels of the design school is clearly not enough. Another issue was the polished concrete walls and floors (which had to be covered). The concrete was of course sealed however was still giving off dust, which is an issue when you are working with expensive fabrics.

To see images from these visits, refer to Appendix 1.
### 3.3 FOLDING AND PLEATING

Folding and pleating may be the tectonic strategies shared most frequently by fashion and architecture in folding, one flat piece of material becomes a volumetric form through the introduction of creases; pleating is a subset of folding, in which regularly spaced folds or creases occur at close intervals.

For example, Morphosis Sun Tower in Seoul (1994-97) features a perforated aluminum surface wrapped around the building, culminating in origami inspired folds at the top. This is a similar approach to the design inspiration that I attempt to portray, in terms of folding the second skin (on the façade) and ‘clothing’ the building, in the same way as fabrics are made to fold and pleat forming a design. Architects have used folding as a device to create greater visual interest through dramatic effects of light and shadow on building’s exterior and to manipulate the volumetric forms of the interior.\(^{46}\)

Issey Miyake is best known for his work experimenting with new pleating methods that would allow both flexibility of movement for the wearer as well as ease of care and production. The end result was a new technique called garment pleating, and in 1993 Miyake launched his collection entitled ‘Pleats Please’.\(^{48}\)

The line had a process where garments were cut and sewn first then sandwiched between layers of paper and fed into a heat press, where they are pleated. The fabric’s ‘memory’ holds the pleats and when the garments are liberated from their paper cocoon, they are ready to wear.\(^{49}\)

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\(^{49}\) Ibid.
**Issey Miyake – Pleats Please**

In the ‘Pleats Please’ line, the Japanese designer was able to introduce new textures and sculptural volumes thanks to his pioneering work with pleating techniques. Traditionally, flat fabric is pressed and pleated before sewn, but Miyake reversed this process, creating oversized garments that shrink after pleats are applied. The sculptural forms of these pleated garments have inspired a number of architects, including Frank Gehry.50

Miyake Design Studio has created paper pleat dresses for the ‘XXIst Century Man’ exhibition in Tokyo, Japan. Miyake and his team spent months exploring various papers and processing techniques. The ‘clothes’ were the results of tests carried out during the design process; they are made from industrial packaging paper. Like the textiles in the ‘Pleats Please’ collection, the paper was pleated and handcrafted.51

Not only is pleating and folding a more deliberate way of shaping textiles, according to D’Arcy Thompson (as cited in Beasley and Bonnemaison), it is a process that is evident in growth in organisms and in simple physical systems.


“*If a sheet of paper can be made to expand here and contract there, as by moisture of evaporation, the plane surface becomes dimpled, or folded, or buckled, by the said expansions and contractions; and the distortions to which the surface of the ‘germinal disc’ is subject are (...) precisely analogous*” (Thompson 1942:83).52

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Experimentation

It seems necessary to see designing and making as an emerging process to make sense of the interactive relationship between the practitioner and the material.\(^\text{54}\)

Folding and its subset, pleating, are not only used as an aesthetic relationship to fashion, but it can also be used as a structural fold. For example, when a flat plane is folded in a certain way, it allows the whole structure to become more rigid and stiff. This allows the structure to better support its own weight (as shown in the research folds to the right).

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\(^{\text{54}}\) Phill Beasley & Sarah Bonnemaison, On Growth and Form; Organic Architecture and Beyond (Canada: Tuns Press & Riverside Architectural Press, 2008), 119.

Japanese fashion designers such as Junya Watanabe and Rei Kawakubo of Comme des Garçons have designed and presented avant-garde collections. These feature radical, oversized, asymmetrical black garments with intentional holes and unfinished edges.⁵⁶

These confronting new shapes and textures respond differently to the contours of the body and challenged Western conceptions of what fashion should look like.⁵⁷ This reflects back to the fashion institute, in terms of how the form is fitted within the urban environment and how it is perceived by society.

Extensive research into the relationship between fashion and architecture reveals a definite interweaving of the two industries.

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⁵⁷ Ibid.
⁵⁸ Ibid.
Office dA – Tectonic Folding Techniques

Office dA’s principal, Nader Tehrani, conducts elaborate investigations into the properties of different materials to articulate a building’s skin. He uses tectonic strategies like folding, weaving, draping and wrapping, and executes them using materials such as rubber, brick or wood. As a result, these turn into inventive fabrication techniques.59

This has inspired the initial idea of pleating and folding as a façade. This shows a clear distinction between the way these fashion principles can be translated into an architectural form.

In the case of the Casa La Roca project, Office dA works with terracotta block, brick and tile, pushing their material, tectonic and perceptual qualities to achieve this two-fold objective. The house is wrapped in a continuous surface of terracotta (as shown in Figure 3.5).60

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61 Ibid.
**Foreign office Architects – Folding Structures**

By using principles of origami in iconographic architecture no single reading can monopolize the experience of the building. That iconography accounts for the smooth planes in the longitudinal section. The Fold of the French philosophers Gilles Deleuze and Felix Gauttari that inspired the design of the building, 62

Foreign Office has designed the structure of the building by making triangulated steel-plated portals. This is an example of folding forms being structural as well. 63

The way that these folds have been created (*see figure 3.6*) show that simple forms can allow for a stimulating space, whether it is for a cruise terminal or a fashion school.

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63 Ibid.

64 Ibid.
Shoe Engineering: Marloes ten Bhömer’s Walking Art

By looking at the idea of folding in an architectural way, these uniquely designed shoes are like little sculptures for the feet. This new breed of shoes escapes their traditional form and construction while challenging current footwear archetypes and exploring the liberties of design.

These shoes were designed through the experiments of Dutch designer Marloes ten Bhömer. Bhömer consistently defies the generic typologies of women’s shoes through experiments with non-traditional technologies and material techniques. 65

“By reinventing the process by which footwear is made, the resulting shoes serve as unique examples of new aesthetic and structural possibilities, while also serving to criticize the conventional status of women’s shoes as cultural objects.” 66

The design of the shoes is a synthesis of what seems to be Japanese origami, modern architecture, avant-garde couture, geometric folds, curvaceous shapes and future-forward designs. 67

But one need not be intimidated with the intricacy and intensive craftsmanship of her shoes. Bhömer’s shoes are designed not just to be adored visually but to actually be worn and used.

“They are as comfortable as any high-heeled shoe. When designing shoes, in the first instance, I never let functionality or comfort get in the way of my formal exploration. The objective of these formal explorations is to discover shoes anew. Sometimes they are translated into functional objects... their function varies from catwalk pieces, pieces that exist in photographs to technically sound footwear.” 68

Figure 3.7: Folding Design Shoes by Bhömer. 69

66 Ibid.
67 Ibid.
68 Ibid.
69 Ibid.
4.0 PROJECT DEVELOPMENT

4.1 SITE ANALYSIS

Site selection played a large part of the development of this project. It is very important to pick the right site suited for such a programme. When I first decided to design a fashion institute, I looked into various sites around Auckland, New Zealand.

The first couple of sites I looked into were in New Market and Ponsonby. These suburbs are such fashion and style driven regions of Auckland. Designers such as Trelise Cooper and Karen Walker have stores situated there and are driven by the buzz of the ‘fashionable’ environment. However, these designers have already created a ‘brand’ for themselves and attract customers that already know who they are. What I intend to do with the fashion institute is to create a brand for the school that can grow in a district of Auckland that is ever-changing and growing (like the fashion industry).

So I moved on to looking at sites around the CBD area, an area closer to tourism and international recognition. After further research was made, the Wynyard Quarter development was discovered. This seemed like a perfect area to have a project with such a programme. It is close to the city and absorbs the urban buzz that the CBD has to offer, something that is important for such an ever-changing industry. It is convenient and crucial that the school will be close to where New Zealand Fashion Week is held every year. This will attract people to possibly look at the students work and allow the school to become nationally and internationally recognized.

Next came the process of selecting the most suitable site in Wynyard Quarter. Many different sites were looked and the corner site of Jellicoe Street and Daldy Street was selected. This site is close to the entertainment boulevard that is being developed (along Jellicoe Street), and also has a height restriction of 52m (the highest in the development). The unique wedge shape of the site allows for a challenge in designing to complement the context and the original character that is given with the diagonal axis running through the site.

Figure 4.1: Location of Auckland.
Current Situation in Wynyard Quarter

Wynyard Quarter is currently undergoing the first stage of construction. The sites for the first stage have been cleared and the existing marine businesses have remained intact and open for business. The businesses on the west side of Beaumont Street will remain open and are not part of the current development scheme. The Auckland Fish Market (which is across the road from my site) will also remain intact and is not part of the new scheme. The proposed site is a wedge shaped form (as mentioned earlier), and gives the brief a unique canvas to work on.

Future Development in Wynyard Quarter

Wynyard Quarter is currently undergoing the development scheme proposed by Sea + City as mentioned earlier.

The proposed site falls under the ‘Central Precinct’. This would be a good location for a campus, as it is close enough to the social hub of the site, but still in a more exclusive area to allow students to stimulate their creativity.

This vision of a redeveloped and rejuvenated Western Reclamation and Tank Farm will become a reality over the next 25 years as the area is gradually transformed from a largely port-related industrial area into a mixed-use, multi-purpose urban village. The Urban Design Framework proposed for Wynyard Quarter aims to create a lively, bustling and safe environment for people to live, work and play.70

Figure 4.2: Location of site in Wynyard Quarter, Auckland.

Figure 4.3: Current Situation in Wynyard Quarter.\footnote{Sea + City, Design Concept Introduction, http://www.seacity.co.nz/design_concept.htm (accessed April 03 2010).}
Figure 4.4: Future image of Wynyard Quarter.\textsuperscript{72}

\textsuperscript{72} Sea + City, Design Concept Introduction, http://www.seacity.co.nz/design_concept.htm (accessed April 03 2010).
The below images\textsuperscript{33} are the current, future and view location of specific areas of the Wynyard Quarter.

**Urban Design Framework**

There are two new public parks with space for iconic building sites. There is also a 2.4km stretch of publicly accessible waterfront, a dramatic waterfront promenade with a very iconic entry bridge from Te Wero Island to shops, restaurants and bars within Wynyard Quarter. Plans for an active fishing wharf and a marine events precinct will also proceed.

The main park will be a major landscaped 4.25ha area of public space on the waterfront headland, the primary public space destination for both passive and active recreation. It will provide the signature landscape experience of the Sea+City Project. The smaller park incorporates a 40m wide boulevard that will visually and physically connect Victoria Park to the tip of Wynyard Point.

The design framework includes areas for the commercial fishing and marine industries, retail and entertainment businesses, offices and apartments to create a mixed-use community. It also establishes the urban structure and public infrastructure for the project - the roads, parks, services and public facilities.

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**Site Location**

The proposed site is on the corner of Daldy and Jellicoe Street, situated within Wynyard Quarter. It is a three-minute walk from the site where the Fashion Week is held each year. This would be extremely useful for students to extend their experience and knowledge, and also for recognition of the institute.

Boulevards, shops, cafés, offices, apartments and beautifully landscaped parks will include 4.25ha of public space on Wynyard Point, with spectacular views from the upper harbour in the west to Devonport, Rangitoto Island and the working port – a great break for the students and staff of the fashion institute and also very accessible to the general public.

On the other side of Daldy street (sitting opposite the proposed site) is different marine businesses and the Auckland Fish Markets. This is something that is remaining as is and not in the proposed master plan.

On the northern part of the site, the surrounding context includes an entertainment boulevard (running along Jellicoe Street), as great place to thrive off the city waterfront atmosphere.

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75 Ibid.
Site Information

Public open space and access to the waterfront is at the heart of the Urban Design Framework proposed for Wynyard Quarter. Within the Sea+City Project area 38% of the total land area is set aside for parks, public squares and a major waterfront promenade. This is a valuable environment to create a more social atmosphere, perfect for students of the fashion industry who thrive on a city that is always alive.

The reviving of Wynyard Quarter incorporates the principles of the wider Waterfront Vision, and a range of public open spaces will be incorporated into the design ensure a variety of experiences are provided.

Auckland City Council's District Plan Change will enable a change of land use for this area and provide the framework to ensure any proposed development on Wynyard Quarter is aligned with the vision for the whole of the waterfront.

There is a strict plan on balancing the amount, location and type of public open space with efficient transport networks. The District Plan will also manage the relationship between public and private developments to ensure the right outcome in respect to the building heights.

The Urban Design Framework proposes approximately 2.4km of new public waterfront access along the entire edge of Wynyard Quarter. This will create a range of distinctive open spaces and also balance the requirement for public access with the operational needs of existing marine and fishing activities.

The proposed Point Park is the most significant open space within the framework. Its location at the tip of Wynyard Point emphasises the views and the relationship between land and water.

The proposed site has a height restriction of 53 metres for the northern building and 30 metres maximum for the southern building. This is the third site in the development that has these restrictions, which gives this project an advantage in terms of standing out and becoming a more significant feature to the waterfront.

77 Ibid.
78 Ibid.
79 Ibid.
People Movement in Wynyard Quarter

The development scheme is aimed to have a ratio of 70:30 for foot traffic and vehicle traffic. This is a great advantage for the school as students can walk to their classes rather than spend time and money on parking their vehicles. One of the key drivers of this scheme is the ‘Park Axis’, which is where most of the people movement will occur in terms of funneling users into the social zones of Wynyard Quarter.

This is a positive aspect of the proposed Fashion Institute being close to the busy ‘meeting spot’. It gives the area a successful urban atmosphere and allows more recognition of the locality and the significance of the building.

The link from the ‘Park Axis’ will lead to Jellicoe Street, which is the proposed social zone for the whole development. The restaurants and public zones on Jellicoe are designed for a successful social environment.

Figure 4.5: View showing Point Park.

Figure 4.6: View showing Park Axis.

Transport – Plans and Analysis

83 Ibid.
Transport alternatives are being provided for vehicles.\textsuperscript{84} The redevelopment and integration of existing and new passenger transport options with pedestrian and cycle activity is a key to the Urban Design Framework. A target of 70\% travel by these alternatives has been set for the area.\textsuperscript{85} This is a perfect way for students and staff to use more sustainable means of getting to the school.

The need for car use is being reduced by mixed-use land development. Initially the plan is to enhance passenger transport options and improved pedestrian and cycling connections. Also, a new footbridge over Fanshawe Street will provide safe pedestrian access to Victoria Park if arriving from that direction.\textsuperscript{86}

Covered walkways and colonnades - the setback of the ground floor of buildings to create cover - will be encouraged to provide shelter for pedestrians. Expanding the travel options will reduce vehicle congestion and its associated air and noise pollution, and will reduce travel costs and stress while reinforcing the concept of a people-focused contemporary urban village.

A proposed new street network will:

- Create a network of high-quality streets.
- Create a legible street hierarchy and urban structure.
- Improve permeability and establish pedestrian priority and safety.
- Facilitate better access and circulation between transport modes.
- Define streets and public space frontages, and facilitate appropriate urban outcomes.\textsuperscript{87}

The existing street grid will be completed by extending Daldy Street to link Jellicoe Street with Fanshawe Street and by extending Madden Street to the waterfront edge at its Westhaven (west) and Viaduct Harbour (east) ends.\textsuperscript{88}

\textsuperscript{84} Sea + City, \textit{Transport}, http://www.seacity.co.nz/design_concept_transport.htm (accessed April 20, 2010).
\textsuperscript{85} Ibid.
\textsuperscript{86} Ibid.
\textsuperscript{87} Ibid.
\textsuperscript{88} Ibid.
Staging Plan

Phase One of Stage One includes the building of major infrastructure, such as the iconic Te Wero Bridge, the Stormwater Pond and key public open space areas such as Jellicoe Plaza and the North Wharf upgrade.89


90 Ibid.
4.2 DESIGN PROCESS

Initial Concept and Creative Development

The first stage of my creative process was to physically make models that showed my interpretation of the fashion principles of folding, pleating and layering (see figure 4.11).

By linking back to fashion precedents, particularly the designs of extravagant couture ideas of ‘Viktor & Rolf’, I started drawing sections of dresses to analyse and comprehend fashion in an architectural manner.

Viktor Horsting and Rolf Snoeren’s collections are based on ideas rather than current trends (as shown on the following images). Their runway shows are extravagant and are more like a theatrical spectacle and art performance than a fashion show.91

In particular, in the Spring 2010 Collection the dresses seem to elaborate on fashion in an architectural way.92 For example, the most memorable concept was literally taking a bite out of fashion and creating gaping holes or panels in the skirts of ball gowns and then meticulously layering stiff fabric inside, acting like the ‘structure’ of the dress. These cavities allow the viewer to get a glimpse of the ‘skin’ underneath; as I interpreted this as a glimpse of the first façade.

It is as if the gowns are simultaneously solid objects93 held by the ‘bodies’ structure.

The tenth anniversary (Autumn/Winter 2003-04) presentation, featured actress Tilda Swinton, the pair’s muse. The collection included one-of-a-kind sculptural shirts and coats made of multiple tiers of collars and plackets that tiered from the models’ necks to their shoulders. This pushed the idea of layering and stacking to their limit to achieve and create extreme architectonic forms94 (see figure 7.1) bringing this back to the concept of layering.

This led me to develop each idea further, whether it was layering floors or staggering the form to abstract from a pleated shift.

Again with the use of model-making and drawing, more developmental models were made to extend on the ‘shifting’ idea (see figure 4.13).


Hussein Chayalan – Shifting

British based fashion designer, Hussein Chalayan, has inspired me with his ideas of shifting cutouts of simple garments. His bold artistry secures his relevance in the dynamic world of fashion. The Istanbul Museum of Modern Art describes Chalayan’s use of clothing as a medium to portray his views on “a range of themes including genetics, technological progress, displacement, migration and cultural identity” with inspiration from “architecture, philosophy, science, history, anthropology, biology and technology.”

The ‘cut-outs’ show a peek of the body, which I interpret and the first façade, the clothing is the ‘second skin’ and by displacing and shifting the ‘second skin’ and allowing to peek through the hidden body, it gives the whole outfit a uniqueness.

Figure 4.10: Hussein Chalayan shifting dress.

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98 Ibid.
Figure 4.11: Initial development of concept modeling.

Conceptual models were made to display my interpretation of fashion principles in a tectonic/architectural way.

The first (from the left) image shows the use of three-dimensional textile forms being created with the use of repetition and layering.

The second model shows a more ‘random’ approach to layering and shifting.

The third model shows a more ‘organised’ approach to layering and repetition creating a criss-cross effect.

The fourth model is the one that was picked to guide me towards further research. It uses pleating and a twisting effect to create closely repeated patterns and forms. The way that the form rises and falls interested me in terms of extrusion.
The next step was to make ‘models’ out of the key tool of most designers, fabric.

This was to understand the initial ideas of pleating and see how it can be transformed in an architectural language. I used various fabrics (silk and cotton blend) to see what each outcome would be.

There are many different pleats that can be created (see figure 7.3), these include:

- Knife Pleat
- Box Pleat
- Double Box Pleat
- Diamond Box Pleat

By creating these pleats (see figure 4.12) it helped me better understand the construction of how it is put together and ways that could be changed to suit a proposed façade.

Figure 4.12: First image, knife pleat investigation, second image, box pleat investigation.
Development on the form of the building was made through developing and experimenting with many different models.

Firstly, card was ‘layered’ and staggered in a two-dimensional manner. Then there were various extrusions were made to create three-dimensional structures.

The original base form (as shown in figure 4.13 the first two dimensional model) was derived from the wedge shape of the site. I wanted to work with the original edge of the site and slowly push the boundaries of what could be developed from such simple shapes.

Figure 4.13: Concept development of ‘form’.
Originally, the shorter and taller ends were two separate buildings with a 10 metre wide alleyway in between that leads out to the pedestrian axis. With the heights restrictions of 30 and 52 metres, this was an extremely large space to facilitate such a programme. And it was understood properly after making a scale model and developing each floor.

By developing the staggered layers of the structure and shifting the levels, the concept model (see figure 4.14) was large and extravagant.

The levels were twisted to create stimulating spaces in the interior and exterior of the structure. This created cantilevers and possible outdoor spaces or balconies that could be developed into attractive and useable facilities for the occupants.

Figure 4.14: First form investigation model, scale 1:500.
After developing the planning of the building in a more thorough way, another model was made and was obviously reduced in size.

The vertical atrium leading up the exhibition space on the rooftop was the main driver. The eastern façade where the atrium is, remains flat as there is no shifting that occurs here. This was to allow the cascading atrium to be the main visual element of the façade.

The cascading ‘cut out’ was influenced by the fashion precedents I looked at and analysed (the Viktor and Rolf cut out dresses). It hints at the activity inside and creates a visual link to all the levels from each floor of the building.

Spatial developments were brought out to be visible from the exterior such as the double height lecture room (see figure 4.15).

Figure 4.15: Second form model, scale 1:500.
The next developing model was a more polished version of the last one, it was driven more by the cascading atrium (see figure 4.16). The atrium was pushed a bit more to create a more irregular shape rather than the standard rectangular form, which was initially developed. This was again influenced by a combination of fashion precedents (the shifting Hussein Chalayan dress figure 4.10 and the Viktor and Rolf dress, figure: 4.9).

The overall structure is the form of the true building, this is then ‘clothed’ with a second skin on the western façade where the folds of the perforated aluminum will protect and shelter the building as well as being aesthetically pleasing.
4.3 DESIGN STRATEGY

Proposed Function

One of the major goals of the Sea + City development in Wynyard Quarter is to incorporate a social element to allow the use for public spaces. By having a semi public building function that can allow the public to get a glimpse of the activity inside.

The site, consisting of retail, offices, galleries etc, incorporates a range of mixed-uses and will work well with the idea of connecting the public to the activities of the school and its branches.

The benefits of having a mixed-use building include the development of a more vibrant city, reduced energy usage through district energy systems, increased security within the building through extended human presence on site.

The hypothetical client would be Whitecliffe and AUT’s fashion departments. A collaboration between the schools that would cater to the needs of the programme, students, faculty and staff. A facility designed for them in the heart of a future fashion empire.

Building Programme

This project is a proposal for a new fashion institute in Westhaven, Auckland, New Zealand. The building will accommodate a total of 400 students across the four year Bachelor in Fashion Design and Postgraduate courses. The master plan for this building includes retail spaces, a business incubator programme and, of course, the fashion institute.

• The ground floor of building will be devoted to 3 things; retail shops and businesses, gallery entrance and small gallery and lastly the main entrance for the fashion institute. The main entrance of the school is off Jellicoe Street at the peak of the building. You are led up to the next level by a ‘folded’ staircase which has ‘hidden’ stairs that can be seen one you approach the actual front of the staircase.

• The first floor is where the reception is situated. By raising the reception it allows for the school to be ‘showcased’ in a way. On the south side there are more public facilities such as the collection galleries. These galleries are more like a visual library where the school buys and collects pieces to display for referencing. Also a place to hold previous students work to inspire future designers and to show the public what is being
created at the school.

- The second floor is where there is an evident connection of the two separate building forms. As mentioned earlier, originally there were two separate building which connect from the second floor. The 10 metre alleyway is still evident (as per Sea + City’s original scheme).

  The second floor is also where the first year studio spaces and workshops are located and also one of the two lecture rooms. The school library is also located on this floor.

- The third level is where the second year facilities are, including studios, sewing rooms and other various workshops. There is also the second lecture room and various offices for staff.

- The fourth floor is where the third year studio spaces and workshops are located with other various faculty offices.

- The fifth floor is where the final year of the bachelor programme students will be working and spending most of their time. The level above is where the exhibition space for fashion shows is held (on the roof top of the southern end of the building).

- The sixth and seventh floors are where the ‘Business Incubator’ programme will be located. The programme is set up and run by the school to encourage and support graduate designers from the school to set up and design their own collection and brand. It will be somewhat of scholarship programme that allows a certain number of students to design with guidance from successful designers. The rent space would be part of the scholarship, which is a great help to the aspiring designers.

- Plant rooms will be located on the roof above the seventh floor (business incubator floors).

- The buildings have outdoor areas on each floor and the ‘shifting’ of the floor plates creates these spaces. Space where the occupants can take a break from the creativity and relax.
4.4 DESIGN FEATURES

Form

The form of my building was derived from extensive research and experimentation using models. Layering, folding and pleating obtained a manipulated form from a simple geometric shape.

The developmental process (see section 4.2 Design process) allowed the form to mold into a workable state and the initial ideas that were retrieved from fashion have become more evident.

A staggered shifted effect inspired by fashion designers such as Hussein Chalayan, has been developed with the whole form.

Materiality and Façade

Experimenting with a second skin, allowed me to separate the formal demands of the surface from the pragmatic requirements of the body. The rigid constraints of a very constricted site and a requirement to maximize the zoning envelope posed a challenge to create a form liberated from the direct impact of these conditions.

A translucent membrane of perforated aluminum enfolds the volume of the building. Inspired by the forms of box pleating, this exterior ‘fabric’ produces optical effects that constantly shift with the play of sun across its surface.

At the peak of the day it is a reflective place; at night, illuminated from the interior, it acts as an oversized urban billboard and shadow play. The external membrane wraps and folds its way up the height of the entire building.

Exploring a high-performance building skin as a means of reducing the building’s solar heat gain. The ‘second skin’ of perforated aluminum wraps around the form of the building in pleat-like folding. This ‘cloth-like’ membrane acts as a Brise Soleil* for the building while adapting to different conditions of light on each façade.

*Brise Soleil refers to a variety of permanent sun-shading techniques and prevents the glass façade from overheating in summer.  


Services

In adopting a sustainable approach to such a large multi-storey building, many features have been considered and applied to the building. The design of a ‘green building’ should no longer be optional but common practice. The features of this building in terms of services include:

- Chilled beam system.
• Various flooring systems catering to the different requirements of cantilevers.

• A pragmatic double-skin façade. This will be used as a sun shading device and allow for an obvious climate control strategy.

• Natural ventilation through the atrium.

• Plant rooms will be located on the rooftop and the same idea of a ‘second skin’ will fold and conceal these plant rooms. This will maintain the aesthetics of the overall building.

• Heat pumps will be used in the studio spaces and office areas in the top two floors (business incubator spaces).

Structure

Structural investigation is particularly important as the design proposes shifts and cantilevered floors. The approach for structure was to allow for a realistic and sustainable solution.

The main load in the building would be the roof top exhibition space that would need to hold audiences of fashion show attendees along with the structure of the runway.

The floors will need to have extra structural support, especially where there are cantilevers, along with structural glazing. Where there are cantilevered floors there need to be a spacing of 1.2 metres to allow for services and flooring system.

There will be columns running through all the floors that meet above each other and five metre centres.

Fire proofing and have the suitable Egress system is crucial for such a large building and according to New Zealand safety regulation there needs to be a minimum of 35 metre access to any point of the building to assure a safe exit for the occupants.
5.0 CONCLUSION

5.1 CRITICAL APPRAISAL OF THE FINISHED WORK AND ITS THEORETICAL FRAMEWORK

The main theoretical direction of this project changed significantly over the past eight months. Initially, the project aimed to be more of an overall analysis of the relationship between fashion and architecture.

This was appraised early in the research and there was evidence of a definite relationship between both industries. After a deeper and more specific analysis of the particular principles in the fashion industry, a more relative and interesting interpretation of pleating, folding and layering was derived. This opened up a design challenge that had not been experienced in previous studio projects.

Through model-making and working with developmental models, the final form was derived and used as the body of the project. Folding and ‘clothing’ this structure shows the parallel approach to the fashion industry. It is evident that there is a connection and that it is possible to translate fashion principles of folding, pleating and layering into an architectural language.

After settling on this option, it was clear that further research was needed to establish the appropriate ‘second skin’ that could act as a second shelter and create a layering effect. The building’s first façade is glazed in places to case the views; therefore this ‘second skin’ needed pragmatic requirements also.

This is a solution to establish a fashion school in Auckland, which could become a brand like international institutes FIT and Parsons in New York, to encourage local and international recognition for not only the talents of its students, but for its unique design.

Architectural Design Solution

The question:

How may pleating, folding and layering, techniques often used in fashion design to create ‘structural’ garments, be used as an approach to both structure and façade in a large-scale, waterfront architectural intervention in Wynyard Quarter?

The design solution of the spaces is functional and the levels have a connection through the shift and flow of the cascading atrium. By using inspiration from fashion principles to translate to an architectural form, the ideas of pleating, folding and layering have been applied to parts of the building design, whether it is the façade, internal walls, the entrance staircase or the entire form of the building.
This project represents a unique opportunity and a chance to reinvigorate the parallel link of fashion with architecture. The site and location are just as important as the creative solution for the function and form of the project. The design solution for the fashion school will distinguish the connection within the architectural design and the urban environment in Auckland.

While this sounds like a straightforward solution, it was, in fact, difficult to accomplish due to various factors, such as the wedge-shaped site, which is the only site in the development with the diagonal axis running through, creating a triangular shape. My previous research and my own design process assisted in a better understanding of a design solution approach.

Overall, the design sits well in its urban context, as careful attention has been paid to the site analysis. As stated earlier, the shifting of the levels and the ‘cavities’ created by the cascading atrium give the building a basis to continue developing this parallel relationship to fashion (as backed up by fashion precedents).

Elements that have been added include materiality, scale, second skin (façade), programmatic spaces, strategic accesses, roof-top exhibition space, sustainable features etc.

There are numerous types of pleating and folding solutions for the façade that have been explored through model making (fabric and solid models). This allowed for not only an aesthetic solution, but a pragmatic solution also. On the western façade the perforations are slightly smaller and spaced further apart due to sun penetrations. Enough natural light will permeate the skin on the western façade to allow for a sufficient amount of light and views for the occupants (as this is the side of the building where the design studio spaces are located).

The planning of the building was explored while experimentation of form and concepts commenced. This allowed for a logical understanding of where each space was going to be located and how the circulation would relate to the spatial arrangement. As this is a large building, fire safety was a major driver of the circulation development. Various drawings were developed to create a safe design according to fire safety regulations.

As you enter the school through the main entrance off Jellicoe Street, there are ‘folded’ stairs that lead to the first level and the reception space. This effectively gives the school a ‘showcased’ approach. The ground floor then becomes a ‘meeting point’ for the students – whether it’s a place to socialize or an informal gallery where
students’ work would be displayed in protected cases for inspired viewing.

According to the case studies (interviews with AUT and Whitecliffe), the most used space within the school are the fashion design studios and work rooms. These are usually open for students after hours also, so are used more frequently than the other spaces. Due to the students’ hectic schedule, outdoor balcony spaces have been designed to allow for ‘a breath of fresh air’ so the students can absorb the urban atmosphere and appreciate the views surrounding such a gem of a site. These outdoor spaces are the deliberate development result of the ‘shifting’ platforms (floors), again linking this back to a pragmatic strategy of design along with an aesthetic approach.

Spaces such as lecture rooms and galleries (visual library), are located in the south side of the building; light is unnecessary for these facilities so it is a logical solution. The two double-height lecture rooms are available for public hire so they are placed in the southern building, along with other possible ‘public’ facilities, such as the visual gallery and rooftop exhibition space.

5.2 SUGGESTION FOR FURTHER RESEARCH

This research project has offered a potential solution to an issue that will need ongoing development; showing the idea of taking fashion principles such as folding, pleating and layering and turning them into architectural elements. This is an invaluable evaluation and has been relevant throughout my design project.

However, how realistic is this proposal and what problems will arise from this solution? As research into form, materiality and structural qualities has shown, this is, in fact, physically possible. Even with simple shifting of form on a smaller-scale building (such as the Ironbank building in Auckland), this has been done and resolved.

Such a building hasn’t been done in New Zealand before (with the form and also the programme), and equally many people may be opposed to the idea of having a school that is accessible to students in such a social area of Auckland, so this could be a contentious issue.

Initially I wanted to create a master plan of all four original buildings (as I have design and combined the two running along Daldy Street). The other side of the site was meant to hold accommodation complexes to cater for international and out-of-town students. These were a cheaper alternative to the high prices of city living. The other building (on the corner of Beaumont and Jellicoe Street), was supposed to be a proposal for a hotel that would cater to international guests and
again promote recognition for the school. The design of these building would complement the original design of the fashion school, bringing elements of folding, pleating and layering into play. These particular ideas have the potential to be an interesting study for further development.

5.3 SUMMARY

My initial investigation resulted in the selection of the ‘Wharf Axis’ site in Wynyard Quarter, despite being a diagonal division running through the middle of the overall area. The site is located in a developing part of the larger waterfront area. This was one of the reasons the selection was made, as it allows the fashion institute to develop a brand for itself and be recognized nationally and internationally while growing within the urban development.

The major architectural strategy was to work with the fashion principles of folding, pleating and layering, and it is important to translate these principles successfully within the established design so that the spaces inside can also experience aspects of these principles.

By looking at relative precedents, such as Nader Tehrani and Issey Miyake’s work, along with other experiments, forms have been established, understood and molded the project to a comfortable state.

Overall, I believe the project is a success. It has proven that a careful design strategy can lead to a successful development that respects the ideas derived from the fashion industry and represents them in a way that is still visible in the architectural form. The project has also been effective as it provides a solution that could be a catalyst of further development in Auckland.
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APPENDIX 1

EXTRA IMAGES FROM WHITECLIFFE AND AUT VISIT

Whitecliffe College of Arts and Design, Auckland, New Zealand
Visit One: Images taken on May 11, 2010 by author.

Figure 5.1: Images showing studio spaces.
Visit Two: Images taken on June 03, 2010 by author.

*Figure 5.2: Images showing Whitecliffe entrances, studios and lecture facility.*
AUT School of Arts and Design, Auckland, New Zealand

Images taken June 3, 2010 by author.

Figure 5.3: Images showing façade louvers and studio spaces.
Figure 5.4: Images showing entry stairs and workshop spaces.
APPENDIX 2

EXTRA SITE INFORMATION

Wynyard Quarter Initial Concept Design

Figure 6.1: Image showing initial concept design of urban development.¹⁰⁰

Future Development in Wynyard Quarter

There are currently four specific precincts in the waterfront location.¹⁰¹

1. **Point Precinct**, which includes the redevelopment of Wynyard Wharf. This will be a combination of residential, commercial and retail activity with a distinct waterfront character and will facilitate activation of Wynyard Wharf and the signature headland public space.

2. **Jellicoe Precinct**, which is considered to be an extension of the existing CBD waterfront and Viaduct Harbour activity. It will function as the social and cultural heart of Wynyard Quarter and provide the main pedestrian and private transport connection to the CBD.

3. **Central Precinct**, which will have retail, commercial and residential development to encompass the existing marine and fishing industries.

4. **Marine Industries Precinct** will retain its existing marine functions, which service the recreational marine uses of Wynyard Quarter and

Westhaven Marina. Additional opportunities for the marine industries are accommodated within the adjacent Central and Jellicoe Precincts.”¹⁰²

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¹⁰² Ibid.

¹⁰³ Ibid.
Wynyard Quarter Development Materiality

Jellicoe Street materials include textured basalt pavers, which will reference the site’s history and will be used in combination with comfortable timber seating elements.

Figure 6.3: Image showing the four different Precincts.\textsuperscript{104}

\textsuperscript{104} Sea + City, *The Big Idea*, http://www.seacity.co.nz/design_concept_big_ideas.htm (accessed April 04 2010).
APPENDIX 3

IMAGES FROM PRECEDENTS

Layering

Figure 7.1: Viktor and Rolf Sketch from Autumn/Winter 2003-04.
Different Types of Pleats

1. Knife Pleat
2. Box Pleat
3. Double Box Pleat
4. Diamond Box Pleat.